

NEW TAXA AND COMBINATIONS IN MACHAERIUM (LEGUMINOSAE). II.

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MACHAERIUM QUINATA (Aubl.) Sandw. var. PARVIFLORUM (Benth.) Rudd, comb. nov.

Machaerium ferrugineum (Willd.) Pers. var. parviflorum Benth. in Mart. Fl. Bras. 15(1): 253. 1862, based on Machaerium nervosum Vog.

Machaerium nervosum Vog. Linnaea 11: 186. 1837. Type: A. Poiteau s. n., French Guiana (holotype B "Herb. Kunth" destroyed).

Although the holotype of this variety is no longer extant, the full description given by Vogel clearly shows that this name may be applied to the smaller-flowered individuals of this species.

What would appear to be an older name for this variety, Machaerium ferrugineum var. glabrescens E. Mey., is being rejected as a nomen dubium. The original description (Nov. Act. Acad. Nat. Cur. 12: 807. 1824) could conceivably be related to this taxon but no reliable type, presumably collected by Hostmann, has been located. A specimen at GOET labelled as "1. Machaerium ferrugineum Pers. Surinam. Prof. Meyer 1824.", with a second label "1. Nissolia ferruginea Willd. Surinam leg. Hostmann. Hb. Bg. [Herb. Bartling] 1841", which might be the type, is actually a specimen of Crudia glaberrima (Steud.) Macbr.

MACHAERIUM PIRESII Rudd, sp. nov.

M. quinata (Aubl.) Sandw. affine, sed differt floribus minoribus, fructibus plus minus sigmoideis, foliolorum venis secundariis paucioribus, venulis reticulatis inconspicuis.

Liana; young stems ferrugino-tomentulose, glabrescent; stipules deltoid, spinescent, to about 8 mm. long, 3 mm. wide at the base; leaves 7-13-foliolate, the axis 15-35 cm. long, tomentulose, glabrescent; leaflets coriaceous, ovate to elliptic-oblong or oblong-obovate, 6-17 cm. long, 3-7 cm. wide, acute or acuminate, the base rounded, the upper surface pubescent along the midvein, otherwise glabrous, the lower surface tomentulose, the secondary veins prominent, about 6-15 pair, approximately parallel, extending to the margin, the tertiary veins reticulate, inconspicuous; inflorescences terminal, paniculate, the axes tomentulose; bracts deltoid, striate, pubescent, spinescent, 7-8 mm. long, 3-5 mm. wide at the base; bracteoles broadly ovate, 1.5-2 mm. long and wide; flowers 5-6 mm. long; calyx tomentulose, 2-2.5 mm. long, 1.5 mm. in diameter, the teeth less than 1 mm. long; petals reddish, the vexillum pubescent on the outer face; stamens monadelphous; fruit winged, drying to dark brown, ferrugino-tomentulose, glabrescent, somewhat sigmoid, 8-10 cm. long including stipe about 5 mm. long, the body 2.5-3 cm. long, 1.2-1.5 cm. wide, the wing 5-7 cm. long, 2-2.5 cm. wide.

Type: J. Murça Pires 577, Brazil, Amazonas, Rio Negro, Serra de São Gabriel, virgin forest, 1 May 1947 (holotype IAN 28539; isotypes NY, US).

MACHAERITUM MACROPHYLLUM Benth. var. BREVIATATUM Rudd, var. nov.

A varietate typica floribus majusculis differt, legumine reniformi cum ala terminali abbreviata.

Liana; young stems puberulent, glabrescent; stipules deltoid, spinescent, to about 5 mm. long, 2 mm. broad at the base; leaves 5-9-foliolate, the axis 8-20 cm. long, puberulent, glabrescent; leaflets coriaceous, elliptic to obovate, 8-23 cm. long, 3-11 cm. wide, commonly obtuse, sometimes acuminate, the base rounded to cuneate, the upper surface glabrous, the lower surface moderately pubescent with minute, appressed hairs, sometimes glabrescent, the secondary veins moderately conspicuous to inconspicuous, 10-20 on each side, approximately parallel, mostly extending to the margin, the tertiary veins reticulate, inconspicuous; inflorescences terminal or axillary, paniculate, the axes ferrugino-tomentulose; bracts sericeous, deltoid, 3-5 mm. long, sometimes spinescent; bracteoles ovate or elliptic, obtuse, 1-1.5 mm. long and wide; flowers about 8-12 mm. long; calyx ferrugino-sericeous, 3-4.5 mm. long, 2.5-3 mm. in diameter, the teeth about 1 mm. long or less; petals white or yellowish, the vexillum pubescent on the outer face; stamens monadelphous; fruit reniform with a short terminal wing, ferrugino-velutinous, somewhat glabrescent, 5-7 cm long including stipe about 2 mm. long, the body 3-4 cm. long, 2-2.5 cm. wide, the wing 2.5-3 cm. long, 3-4 cm. wide.

Type: R. Froes 20410, Brazil, Para, Rio Guama, 16 Jan. 1945 (holotype US:226642; isotypes IAN, NY).

Examination of the holotype as well as modern collections of typical M. macrophyllum has shown that variety to have flowers about 5-8 mm. long and fruit with a terminal wing 5-6 cm. long and 1.5-2 cm. wide. I am indebted to the collection, Pires 530, from Vaupés, Rio Negro, Amazonas, Brazil, for the information that the fruit of M. macrophyllum Benth. var. macrophyllum has a long wing, quite unlike the reniform, short-winged pods of var. breviatatum. All other collections I have seen are in flower.

MACHAERITUM FLORIBUNDUM Benth. var. HYPARGYREUM (Harms) Rudd, comb. nov.

Dalbergia hypargyrea Harms, Notizbl. Bot. Gart. Berlin 9: 973. 1926. Type: Tessmann 4549, Peru, Loreto or Amazonas, "Oberer Marañon. Mündung des Santiago." (holotype B destroyed, represented by F Mus. photo 2267 and fragment F ex B; isotype G).

MACHAERITUM DUBIUM (H. B. K.) Rudd, comb. nov.,

non M. dubium Fr. Allem. 1856, nom. nud.

Drepanocarpus dubius H. B. K., Nov. Gen. & Sp. 6: 390. 1824.

Type: A. Humboldt [uss. no.] 797, Venezuela, Guarico, "inter S. Geronimo del Pyrital & San Fernando de Apure," 11-27 March 1800 (holotype P-HUMB).

MACHAERIUM ELIASII Rudd, sp. nov.

Arbor vel frutex interdum scandens M. aristulato (Spruce ex Benth.) Ducke et M. lunato (L. f.) Ducke affinis; ab utroque foliolis minoribus, numerosioribus differt; a M. aristulato foliolis sine arista terminali; a M. lunato floribus fructibusque pubescentioribus.

Tree, shrub, or liana, to about 5 m. tall; young stems tomentulose, glabrescent; stipules spinescent, to about 10 mm. long, 5 mm. wide at the base; leaves (15-) 21-51-foliolate, the axis about 4-10 cm. long, tomentulose; leaflets elliptic to oblong, 1-3.5 cm. long, 4-15 mm. wide, obtuse, sometimes shallowly retuse, the base rounded, slightly asymmetrical, the upper surface glabrous, the lower surface glabrous or sparsely pubescent with appressed or subappressed hairs; inflorescences racemose, terminal or axillary, the axes cano- or fulvo-tomentulose; bracts striate, spinescent, to about 5 mm. long and 1-2 mm. wide at the base; bracteoles ovate, striate, sparsely pubescent, 3.5-4 mm. long, 3.5-4 mm. wide; flowers 10-12 mm. long; calyx 4-5 mm. long, moderately pubescent to subglabrous, sometimes sparsely setose, the lobes 1 mm. long or less; petals blue or purple, the vexillum pubescent on the outer face; fruit lunate, essentially sessile, cano- or fulvo-tomentulose (submature, probably glabrescent), about 3.5 cm. long, 1.5 cm. wide.

Type: Bro. Elias 1242, Colombia, Atlántico, Las Flores, vicinity of Barranquilla, July 1934 (holotype US 1618733; isotype F).

MACHAERIUM TOLIMENSE Killip ex Rudd, sp. nov.

Frutex scandens, M. complanato Ducke et M. millefloro Pittier plus minusve interjectus; a M. complanato foliolis floribusque majoribus, a M. millefloro foliolis majoribus, floribus minoribus, calycibus pubescentibus differt.

Scandent shrub about 3 m. high; young stems ferrugino-tomentulose, glabrescent; stipules spinescent, about 5 mm. long, 3 mm. wide at the base, recurved; leaves 5-9-foliolate, the axis (4-) 7-11 cm. long, tomentulose; leaflets subcoriaceous, elliptic, 2-6.5 cm. long, 1.5-3.5 cm. wide, obtuse or slightly emarginate, the base rounded, the upper surface glabrous, the lower surface ferrugino-pubescent, the venation pinnate-reticulate, inconspicuous; inflorescences terminal, paniculate, the axes ferrugino-tomentulose; lower bracts spinescent; upper bracts pubescent, ovate, 1-2 mm. long, 1 mm. wide; bracteoles pubescent, broadly ovate or suborbicular, about 1 mm. long and wide; flowers 5-6 mm. long; calyx pubescent, 2-2.5 mm. long; petals dark or dull red, the vexillum pubescent on the outer face, somewhat reflexed; fruit not known.

Type: F. W. Pennell 3610, Colombia, Tolima, Honda, arroyo, alt. 250-300 m., 3-4 January 1918 (holotype US 1044833; isotype NY).

MACHAERIUM LEIOPHYLLUM (DC.) Benth. var. COLOMBIENSE Rudd,  
var. nov.

A varietate typica fructibus longioribus angustioribusque necnon ala cum parte seminifera proportione diversa differt.

Tree or liana, to about 45 m. high; leaves 5-11-foliolate; leaflets elliptic to ovate-elliptic or elliptic-oblong, (1-) 2-9 cm. long, (0.5-) 1-3 cm. wide, acute, obtuse, or acuminate; flowers purple, 8-10 mm. long, the vexillum pubescent on the outer face; calyx subsericeous, 4 mm. long, 2.5-3 mm. in diameter; fruit essentially glabrous at maturity, winged, 8-8.5 cm. long including stipe 5-10 mm. long, the seminiferous body about 2.5 cm. long, 1.5-2 cm. wide, the wing 5-5.5 cm. long, 1.5-2 cm. wide.

Type: H. Garcia Barriga 11891, Colombia, Cundinamarca, Sasaima, Vereda San Bernardo, "a lo largo del rio Dulce," 1660 m. elev., 10 January 1946 (holotype US 1854469).

The winged fruit of this variety is more "normal" for Machaerium in contrast to the lunate, Drepanocarpus-type pods of var. latifolium and var. cristacastrense or the relatively short-winged fruit of var. leiophyllum.

MACHAERIUM OVALIFOLIUM Glaziou ex Rudd, sp. nov.

Machaerium ovalifolium Glaziou, Bull. Soc. Bot. France, Mem. 3: 147. 1906, nom. nud.

Machaerium ovalifolium Glaziou ex Hoehne, Fl. Brasílica 25(3): 37. 1941, in Portuguese, without Latin diagnosis.

Arbor grandis, M. scleroxylo Tul. et M. nycititante (Vell.) Benth. affinis sed flores obtecti per bracteas ovatis confertis aequantibus notabilis; a M. scleroxylo foliolis fructibusque majoribus, a M. nycititante fructibus basi latioribus differt.

Large tree; young stems ferrugino-or fulvo-tomentulose, glabrescent; stipules spinescent, indurated, straight, somewhat divaricate, to about 1.5 cm. long, 4 mm. wide at the base; leaves (7-) 11-15-foliolate, the axis about 4-10 cm. long, puberulent, glabrescent; leaves elliptic-oblong to obovate, 1-4 cm. long, 0.5-2 cm. wide, the apex obtuse to acute, usually apiculate, the base rounded to cuneate, the upper surface puberulent, glabrescent, the lower surface densely pubescent with lax or subappressed hairs, glabrescent, the venation reticulate; inflorescences axillary or terminal, the axes fulvo-tomentulose; lower bracts pubescent, deltoid, about 5 mm. long, 1-2 mm. wide, caducous; upper bracts pubescent, broadly ovate, 6-8 mm. long, 5-6 mm. wide enveloping the flowers, caducous; bracteoles obliquely spatulate, pubescent, 4 mm. long, 1 mm. wide; flowers 7-8 mm. long; calyx densely fulvo-pubescent, 4 mm. long, 2.5 mm. in diameter, the teeth deltoid, about 1 mm. long; petals reddish, the vexillum pubescent on the outer face; fruit winged, straight, fulvo-puberulent, glabrescent, 5-6 cm. long including stipe about 3 mm. long the body 1-1.5 cm. long, 1 cm. wide, the wing 3.5-4 cm. long, 1.5-1.7 cm. wide.

Type: A. Glaziou 13710, Brazil, Minas Gerais, Carandahy, 4 June 1882 (holotype P; isotypes G, P).

MACHAERIUM FALCIFORME Rudd, sp. nov.

Arbor vel arbuscula plerumque scandens M. lunato (L. f.) Ducke et M. microphylo (E. Mey.) Standl. affinis; a M. lunato foliolis minoribus numerosioribus, fructibus subsesilibus; a M. microphylo foliolis plerumque majoribus, fructibus falciformibus differt.

Tree or shrub, usually scandent, to about 30 m. tall; young stems puberulent, glabrescent; stipules spinescent, to about 10 mm. long, 2 mm. wide at the base, recurved; leaves (13-) 21-31-foliolate, the axis tomentulose, (5-) 7-11 cm. long; leaflets oblong, 5-20 mm. long, 3-5 mm. wide, obtuse at apex and base, the upper surface glabrous, the lower surface puberulent or glabrous; inflorescences terminal, paniculate, the axes ferruginous or fulvo-tomentulose; bracts spinescent like the stipules; bracteoles pubescent, broadly ovate, 1-1.5 mm. long and wide; flowers 8-10 mm. long; calyx pubescent or subglabrous, sometimes setose, about 5 mm. long, the lobes 1 mm. long or less; petals blue, purple, or pink and white, the vexillum reflexed, moderately to sparsely pubescent on the outer face; fruit lunate or falciform, essentially sessile, cano-tomentulose, sometimes sparsely setose, glabrescent, 1-1.3 cm. wide, curved, forming a circle about 2.5 cm. in diameter.

Type: P. H. Gentle 4744, British Honduras, Toledo, Rio Grande, on river bank, 8 Aug. 1944 (holotype US 2329382; isotypes LJ, MEXU).

MACHAERIUM SARAENSE Rudd, sp. nov.

Arbol, primo adspectu M. amplo Benth. simile sed foliolis reticulati-nervatis haud crebri-nervatis; vere affinitate M. nycitante (Vell.) Benth. et M. scleroxylo Tul. sed omnibus partibus glabris vel subglabris, ramis inermibus differt.

Tree about 8 m. tall, apparently unarmed; young stems glabrous or nearly so; stipules caducous, not seen; leaves 9-13-foliolate, the axis essentially glabrous, 3-4 cm. long; leaflets elliptic to obovate, 10-20 mm. long, 5-10 mm. wide, obtuse at the apex and base, the surfaces glabrous or sparsely pubescent with short, appressed hairs, the venation reticulate, the secondary veins inconspicuous; inflorescences terminal or axillary, the axes glabrous; bracts and bracteoles not seen; flowers about 8 mm. long; calyx 4-5 mm. long, apparently glabrous (only fragmentary flowers seen); fruit glabrous, winged, 6-7 cm. long including stipe 1-1.5 cm. long, the body about 1.5 cm. long, 8 mm. wide, the wing 3-4 cm. long, 1-1.2 cm. wide.

Type: J. Steinbach 6788, Bolivia, Santa Cruz, Sará, "campos-region, Rio Palometillas," 400 m. elev., 21 Dec. 1924 (holotype F; isotypes BM, G, K, MO, NY, U, UC, W).